

FIG. 1

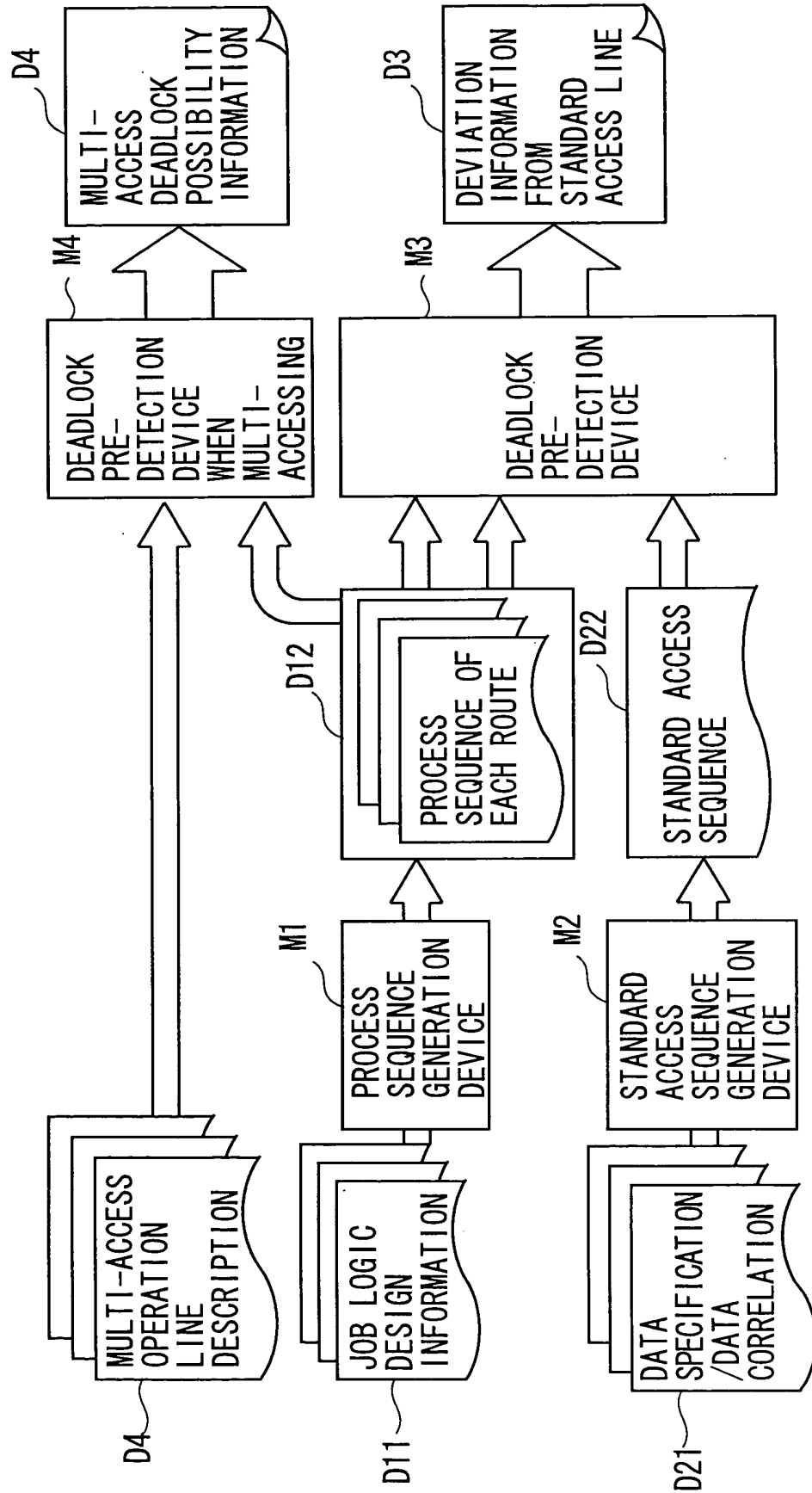


FIG. 2

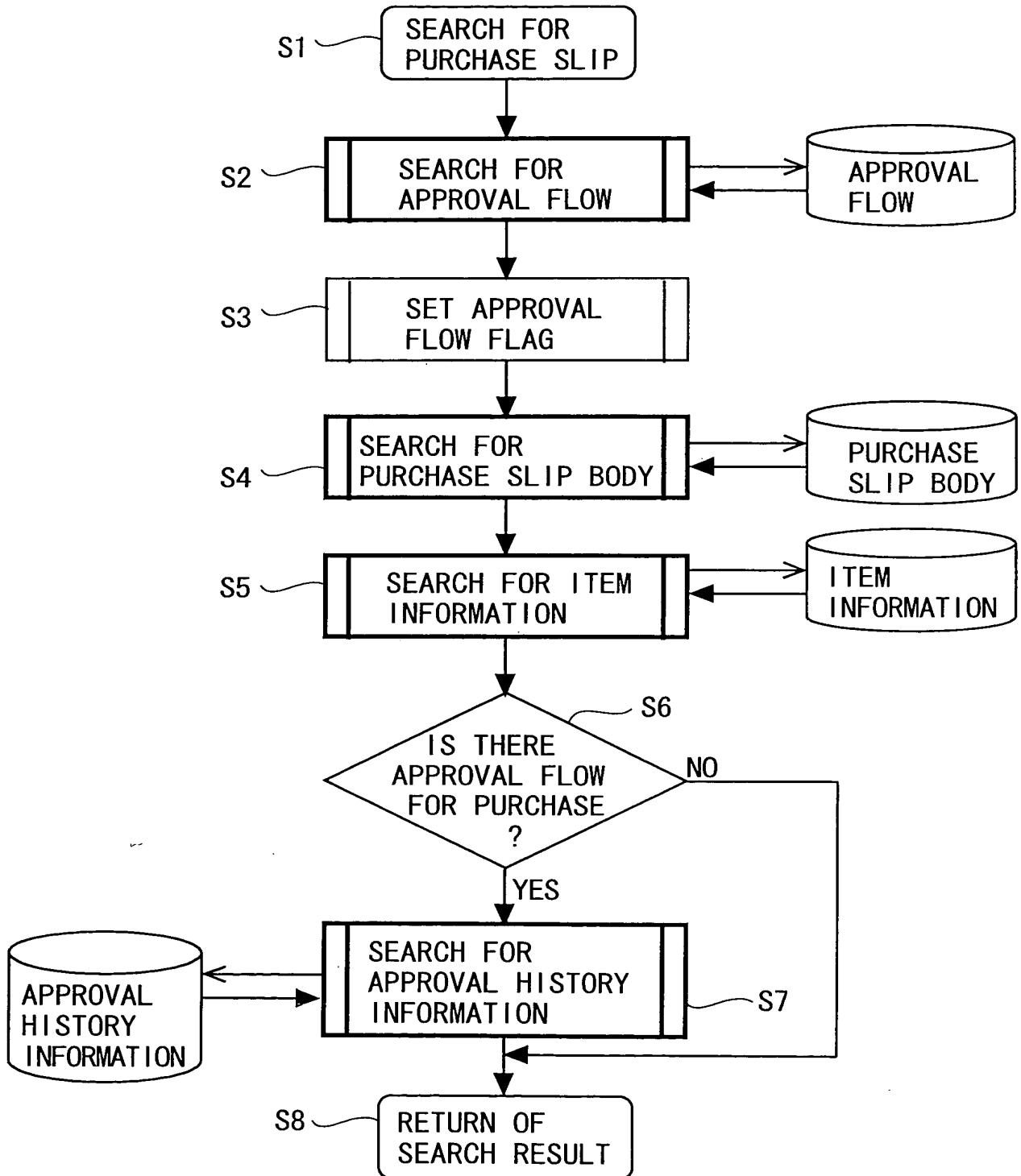


FIG. 3

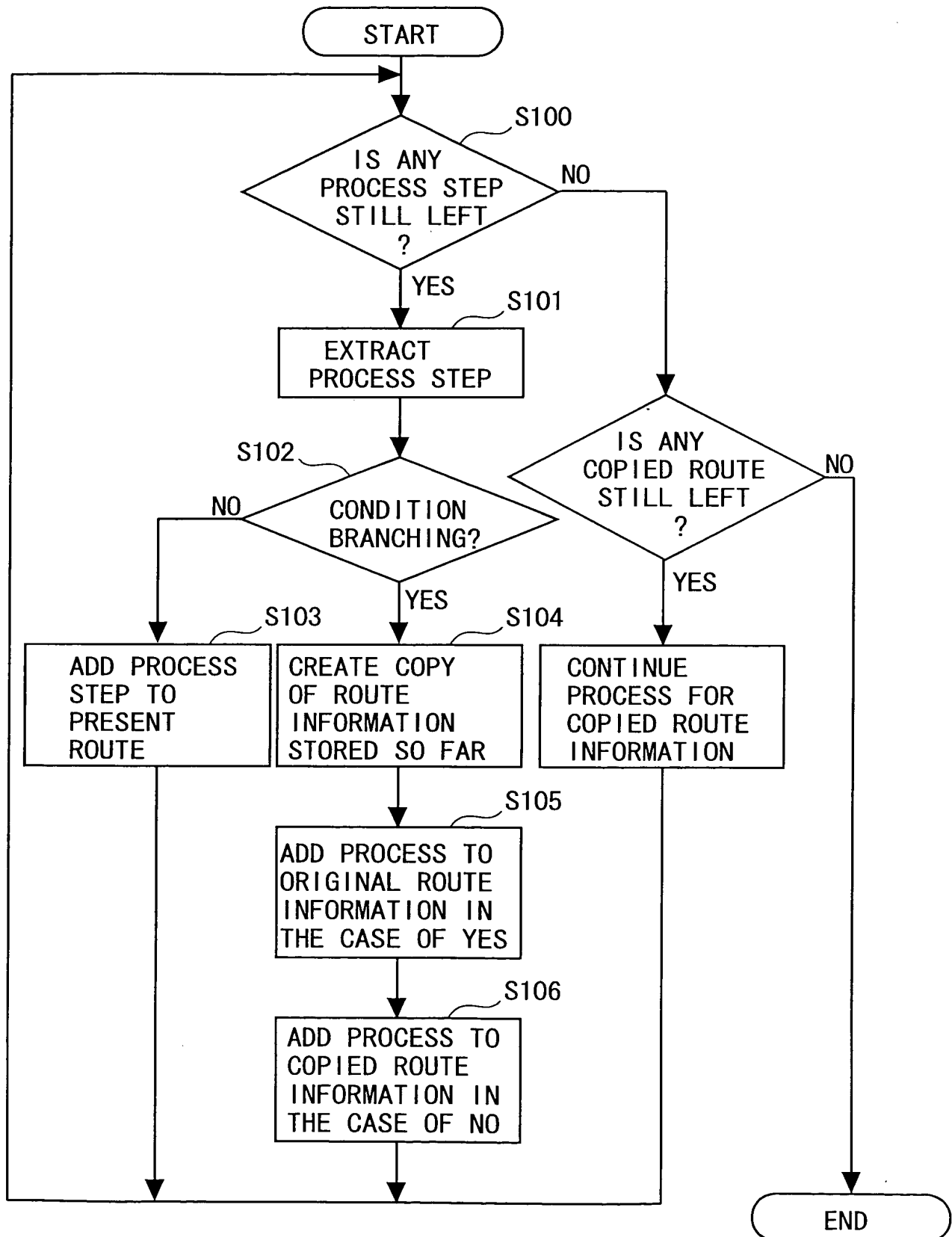


FIG. 4

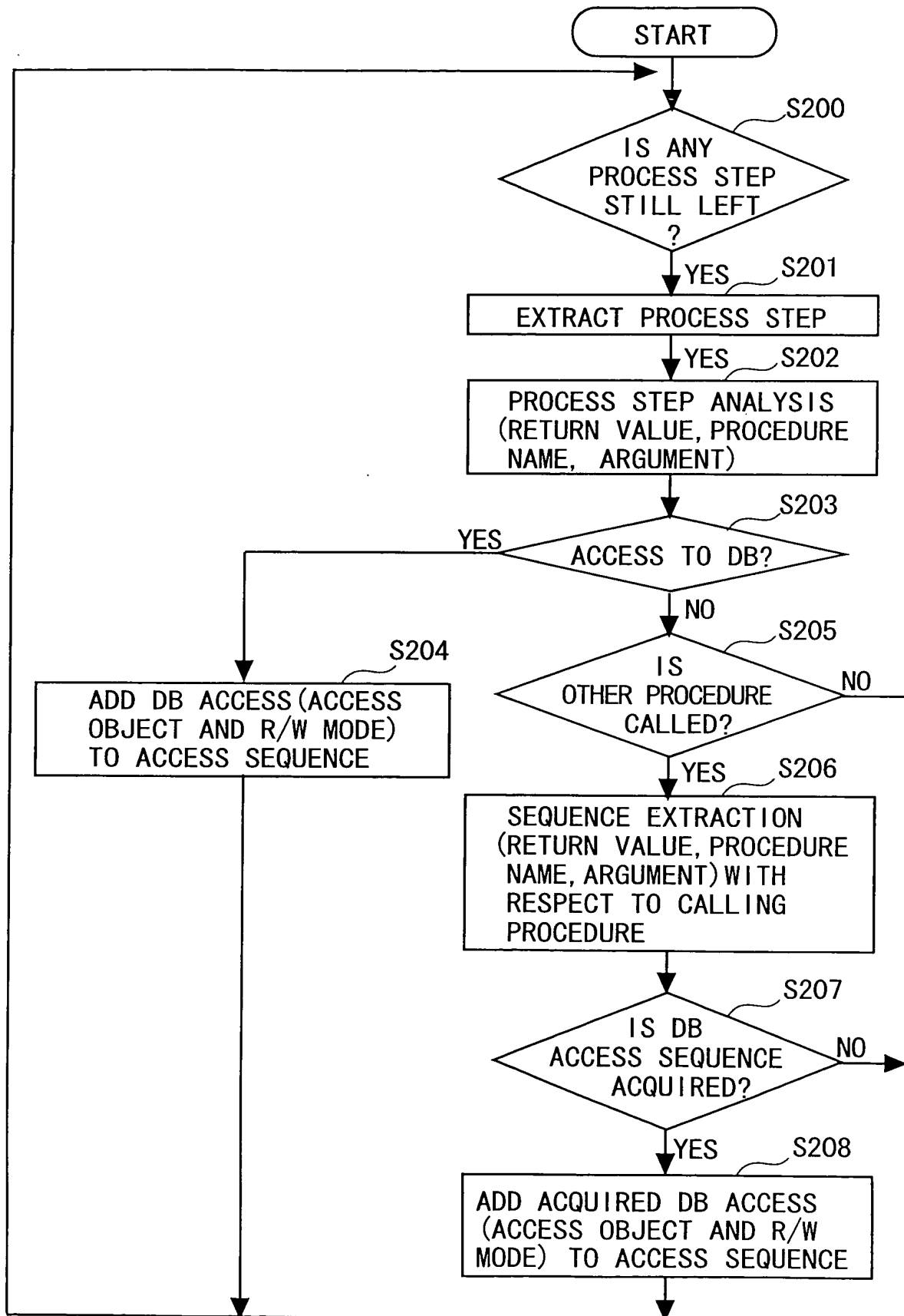
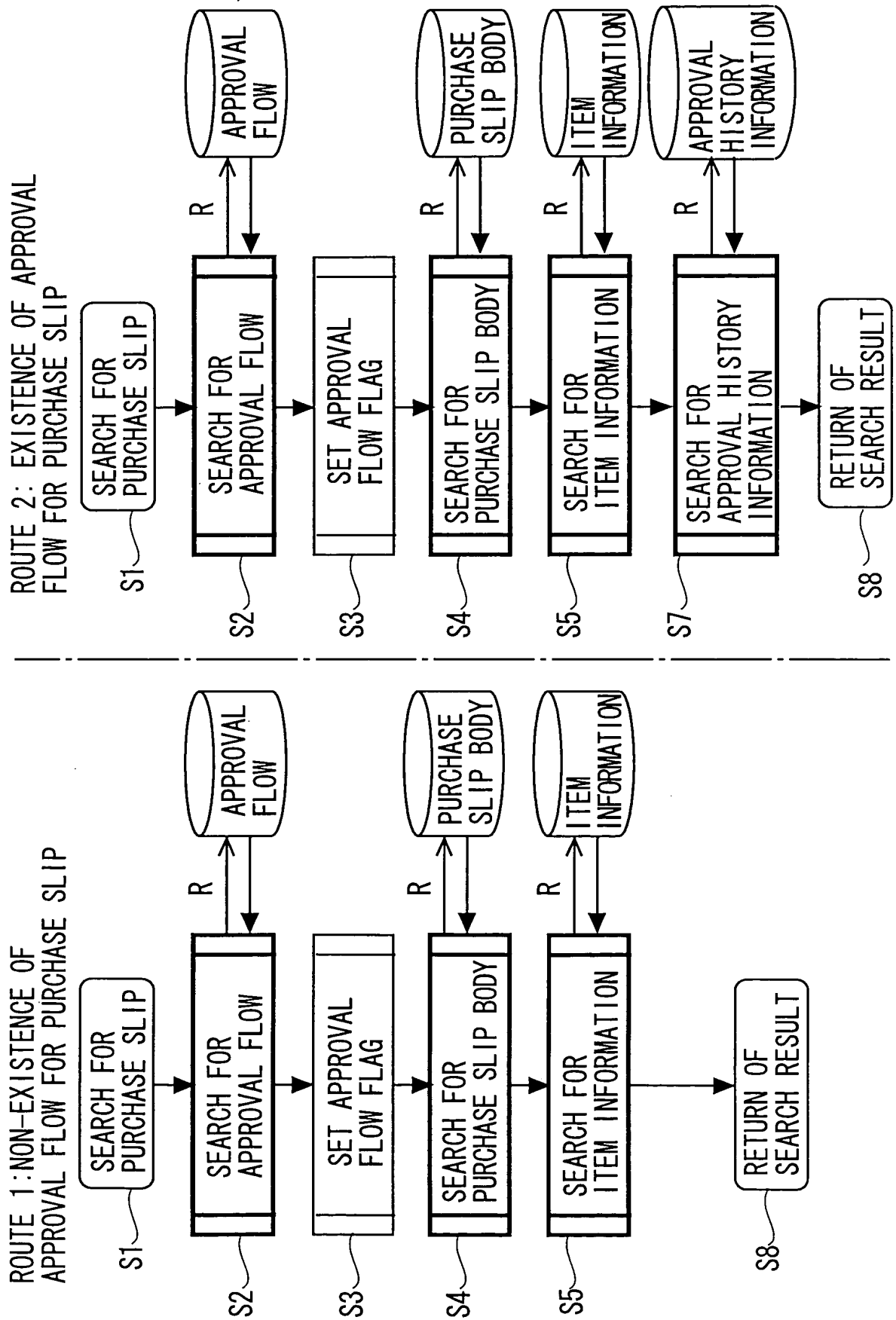


FIG. 5



The diagram illustrates the flow of information and operations between the following components (from top to bottom):

- ORDER ITEM INFORMATION** (represented by a cylinder)
- PURCHASE REQUEST SLIP BODY** (represented by a cylinder)
- ITEM INFORMATION OPERATION** (represented by a rectangle)
- PURCHASE SLIP BODY OPERATION** (represented by a rectangle)
- PURCHASE SLIP API** (represented by a rectangle)
- APPROVAL FLOW DB** (represented by a cylinder)
- APPROVAL FLOW BODY OPERATION** (represented by a rectangle)
- APPROVAL FLOW API** (represented by a rectangle)
- ACQUISITION OF PURCHASE SLIP LIST** (represented by a rectangle)

The flow of information and operations is as follows:

- Information Flow (downward arrows):**
  - From **ORDER ITEM INFORMATION** to **PURCHASE REQUEST SLIP BODY**.
  - From **PURCHASE REQUEST SLIP BODY** to **ITEM INFORMATION OPERATION**.
  - From **ITEM INFORMATION OPERATION** to **PURCHASE SLIP BODY OPERATION**.
  - From **PURCHASE SLIP BODY OPERATION** to **PURCHASE SLIP API**.
  - From **PURCHASE SLIP API** to **APPROVAL FLOW DB**.
  - From **APPROVAL FLOW DB** to **APPROVAL FLOW BODY OPERATION**.
  - From **APPROVAL FLOW BODY OPERATION** to **APPROVAL FLOW API**.
  - From **APPROVAL FLOW API** to **ACQUISITION OF PURCHASE SLIP LIST**.
- Operation Flow (upward arrows):**
  - From **ACQUISITION OF PURCHASE SLIP LIST** to **APPROVAL FLOW API**.
  - From **APPROVAL FLOW API** to **APPROVAL FLOW BODY OPERATION**.
  - From **APPROVAL FLOW BODY OPERATION** to **APPROVAL FLOW DB**.
  - From **APPROVAL FLOW DB** to **PURCHASE SLIP API**.
  - From **PURCHASE SLIP API** to **PURCHASE SLIP BODY OPERATION**.
  - From **PURCHASE SLIP BODY OPERATION** to **ITEM INFORMATION OPERATION**.
  - From **ITEM INFORMATION OPERATION** to **PURCHASE REQUEST SLIP BODY**.
  - From **PURCHASE REQUEST SLIP BODY** to **ORDER ITEM INFORMATION**.
- Return Flow (labeled 'R'):**
  - From **ORDER ITEM INFORMATION** to **PURCHASE REQUEST SLIP BODY**.
  - From **PURCHASE REQUEST SLIP BODY** to **ITEM INFORMATION OPERATION**.
  - From **ITEM INFORMATION OPERATION** to **PURCHASE SLIP BODY OPERATION**.
  - From **PURCHASE SLIP BODY OPERATION** to **PURCHASE SLIP API**.
  - From **PURCHASE SLIP API** to **APPROVAL FLOW DB**.
  - From **APPROVAL FLOW DB** to **APPROVAL FLOW BODY OPERATION**.
  - From **APPROVAL FLOW BODY OPERATION** to **APPROVAL FLOW API**.
  - From **APPROVAL FLOW API** to **ACQUISITION OF PURCHASE SLIP LIST**.

APPROVAL FLOW (Read) → PURCHASE SLIP BODY (Read) → ORDER ITEM INFORMATION (Read)

FIG. 7

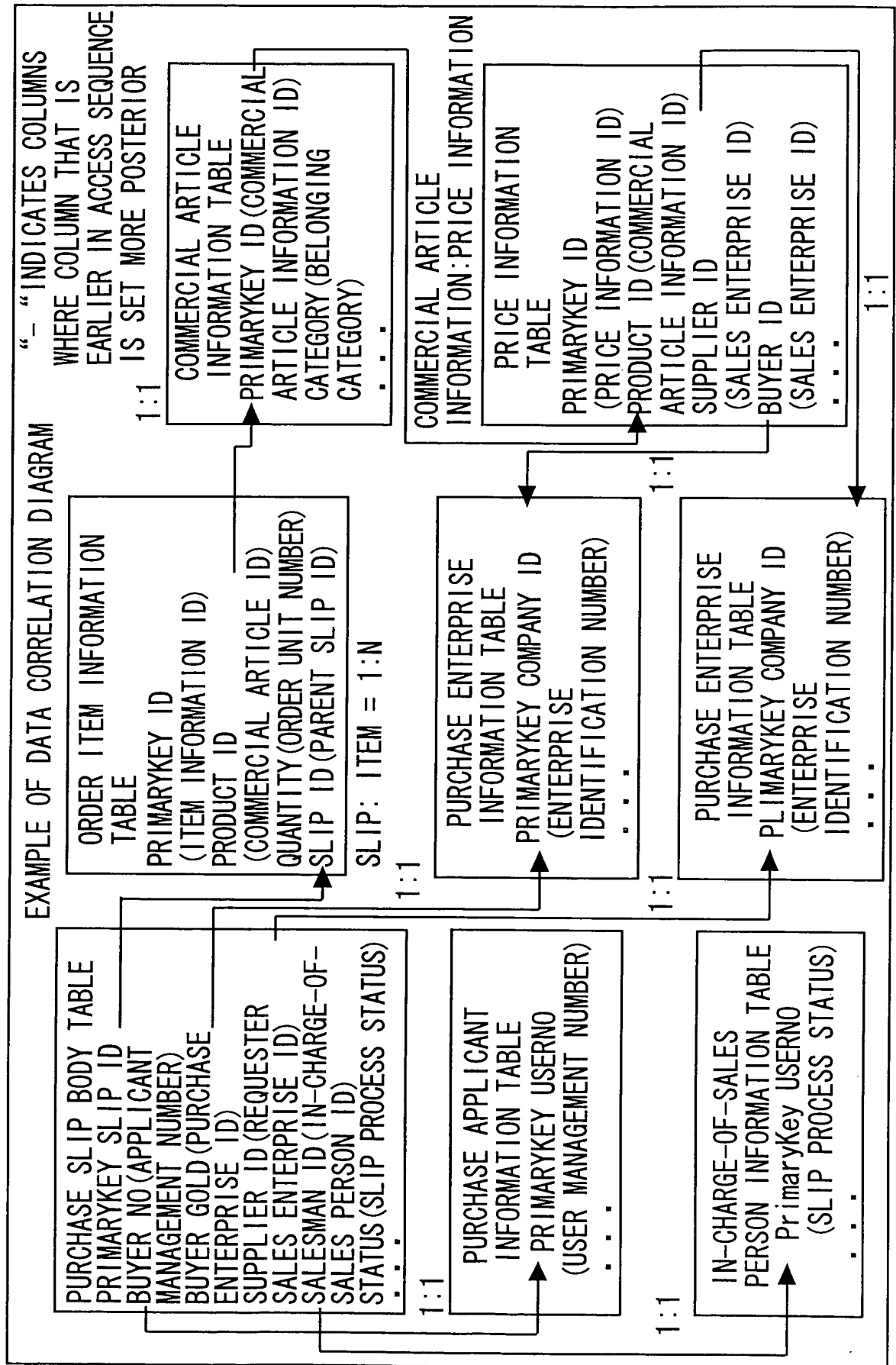


FIG. 8

EXAMPLE OF DESCRIPTION OF DATA SPECIFICATIONS

ROLE: USER INFORMATION

TABLE NAME: CT\_TUSPAR

AVERAGE NUMBER OF RECORDS: 3000

COLUMN: USERNUM	CHAR (32)	MANAGEMENT NUMBER	PLIMARYKEY
USRNAME	CHAR (32)	USER NAME	
USRPWD	CHAR (32)	PASSWORD	
USRCOMP	CHAR (32)	BELONGING COMPANY CODE	
CORRESPONDS CT_TCMPCOM.COMID			
TYPE=1:1			
ACCESS-SQESNCE USRCOMP.>CT_TCMPCOM.COMID			
USROFFICE	CHAR (32)	BELONGING OFFICE CODE	
USRBELONG	CHAR (32)	BELONGING ORGANIZATION CODE	
MAILADDR	CHAR (512)	MAIL ADDRESS	
PHONENUMBER	CHAR (12)	TELEPHONE NUMBER	
FAXNUMBER	CHAR (12)	FAX NUMBER	

} SAME CORRESPONDENCE  
AS COLUMN COMID IN  
TABLE CT\_TCMPCOM  
IS 1 : 1, EXTRACT  
USRCOMP, AND REFER  
TO RECORD IN WHICH  
COMID IS COINCIDENT  
WITH THIS IN  
CT\_TCOMCOM

ACTUALIZING FORMAT ON COMPUTER IS XML-BASED DESCRIPTION OR INVOLVES USING Java  
CLASS AND C++ CLASS GENERATED FROM XML-BASED DESCRIPTION



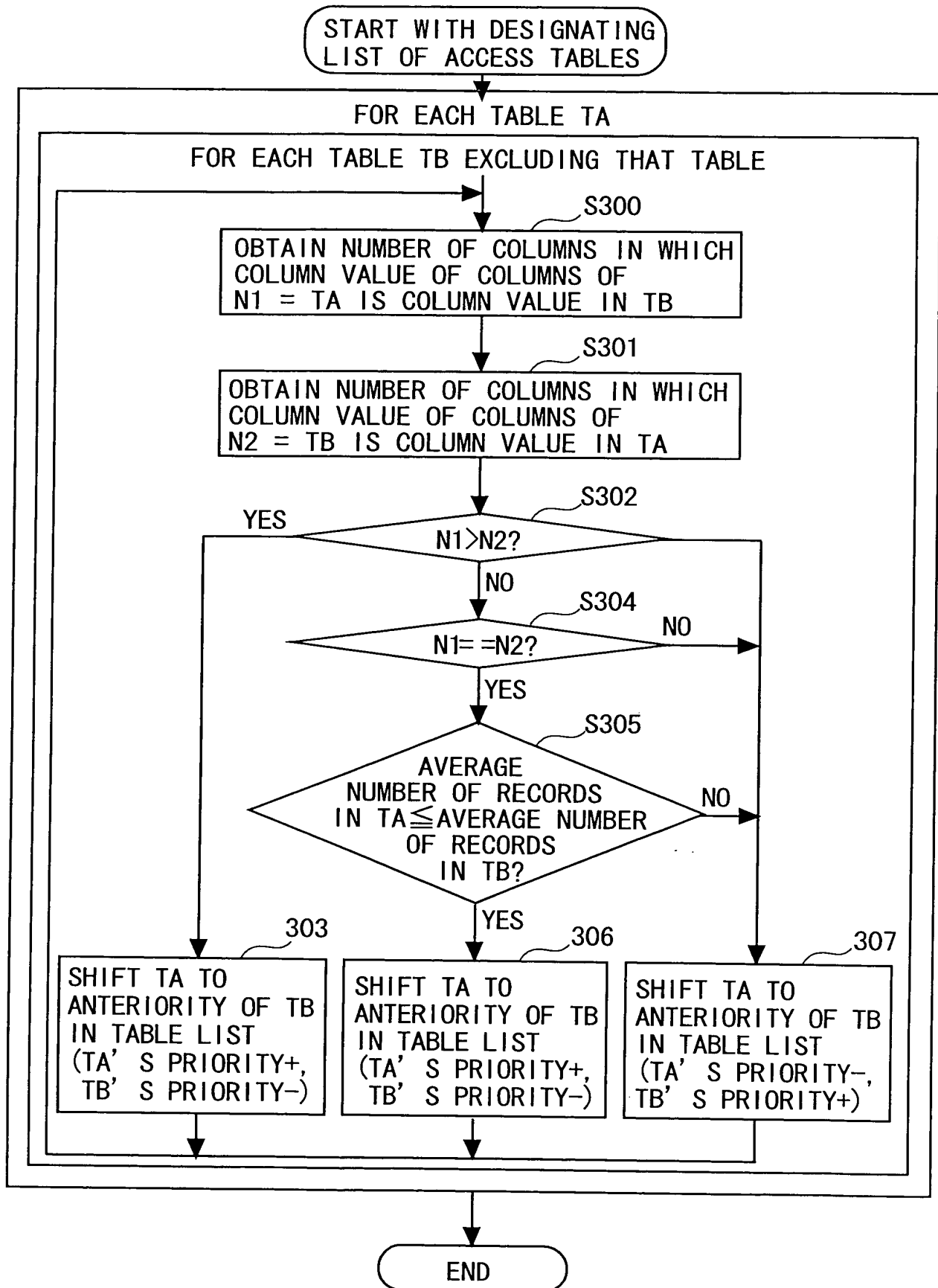
FIG. 9

EXAMPLE OF DESCRIPTION OF DATA SPECIFICATIONS (XML-BASED REPRESENTATION)

```
<data-definition>
<header><table-name>CT_SUSRPAR</table-name>
<table-role>USER_INFORMATION</table-role>
<average-hit-records>3000</average-hit-records>
</header>
<columns>
<column is-Primary-key="true">
<name>USERNUM</name><type>char32</type><role>MANAGEMENT NUMBER</role>
</column>
<column>
<name>USERNAME</name><type>char32</type><role>USER NAME</role></column>
<column>
<name>USRPWD</name><type>char32</type><role>PASSWORD</role></column>
<column>
<name>USCOMP</name><type>char32</type><role>BELONGING COMPANY CODE<
<corresponds><tblcolumn>CT_TCMPCOM.COMID</tblcolumn>
<access-seq>USRCOMP, CT_TCMPCOM.COMID</access-seq>
</corresponds>
</column>
<column>
<name>USROFFICE</name><type>char32</type><role>BELONGING OFFICE CODE</role>
</column>
<column>
<name>USRBELOING</name><type>char32</type><role>BELONGING ORGANIZATION CODE</role>
</column>
<column>
<name>MAILSDDR</name><type>char512</type><role>MAIL ADDRESS</role>
</column>
<column>
<name>PHONENUMBER</name><type>char12</type><role>TELEPHONE NUMBER</role>
</column>
<column>
<name>FAXNUMBER</name><type>char12</type><role>FAX NUMBER</role>
</column>
</columns>
</data-definition>
```

DESCRIBE  
TABLE NAME,  
ROLE, AVERAGE  
NUMBER OF  
HIT RECORDS  
IN HEADER  
FIELD, AND  
DESCRIBE  
COLUMN NAME,  
TYPE, LENGTH  
AND ROLE OF  
COLUMN, AND  
COLUMN NAME,  
COLUMN  
SEQUENCE, ETC.  
OF OTHER TABLE  
HAVING SAME  
ROLE AS ABOVE

FIG. 10



## FIG. 11

EXAMPLE OF STANDARD DATA ACCESS SEQUENCE	
TABLE NAME	ORDER
PURCHASE REQUEST SLIP	1
ITEM INFORMATION	2
PURCHASE APPLICANT INFORMATION	3
IN-CHARGE-OF-SALES PERSON INFORMATION	3
COMMERCIAL ARTICLE INFORMATION	5
PRICE INFORMATION	6
PURCHASE ENTERPRISE INFORMATION	7
SALES ENTERPRISE INFORMATION	8

300 CASES ON AVERAGE ARE HIT

1500 CASES ON AVERAGE ARE HIT

3000 CASES ON AVERAGE ARE HIT

GIVING PRIORITIES OF RESPECTIVE TABLES ACCORDING TO PROCEDURES IN FIG. 11  
THERE IS OBTAINED ANTERIORITY/POSTERIORITY RELATION SUCH AS  
PURCHASE SLIP INFORMATION>ITEM INFORMATION>COMMERCIAL  
ARTICLE INFORMATION>PRICE INFORMATION>PURCHASE ENTERPRISE  
INFORMATION/SALES ENTERPRISE INFORMATION/PURCHASE  
REQUEST SLIP>IN-CHRG-OF-PURCHASE PERSON  
INFORMATION>PURCHASE ENTERPRISE INFORMATION/PURCHASE  
REQUEST SLIP>IN-CHARGE-OF-SALES PERSON INFORMATION>SALES  
ENTERPRISE INFORMATION, HOWEVER  
ANTERIORITY/POSTERIORITY RELATIONS BETWEEN PURCHASE  
APPLICANT INFORMATION AND SALES APPLICANT INFORMATION AND  
BETWEEN PURCHASE APPLICANT/IN-CHARGE-OF-SALES PERSON  
INFORMATION AND COMMERCIAL ARTICLE INFORMATION/  
PRICE INFORMATION ARE NOT DETERMINED ONLY FROM THIS.  
SUCH BEING THE CASE, ANTERIORITY/POSTERIORITY RELATIONS  
ARE ESTABLISHED BY USE OF HEURISTICS SUCH AS AVERAGE  
VALUE OF RECORD HIT CASE COUNT, ETC.  
HEREIN, ORDER IS GIVEN BY SUCH HEURISTICS THAT PURCHASE  
APPLICANTS ARE LESS THAN SALES APPLICANTS IN HIT RECORD  
CASE COUNT, AND PURCHASE APPLICANTS AND IN-CHARGE-OF-  
SALES PERSONS ARE LESS THAN COMMERCIAL ARTICLES IN AVERAGE  
VALUE OF HIT RECORD CASE COUNT.

FIG. 12

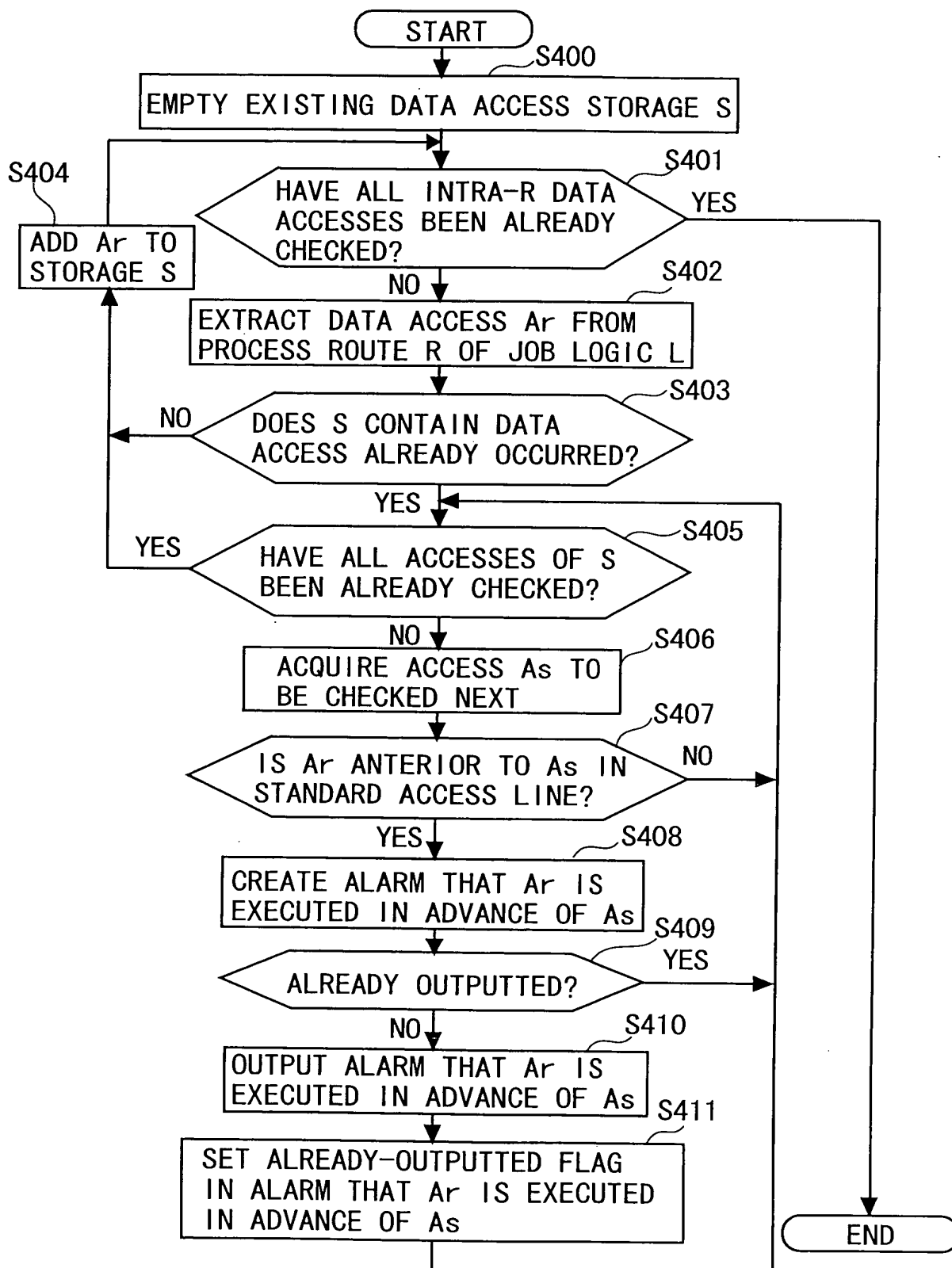
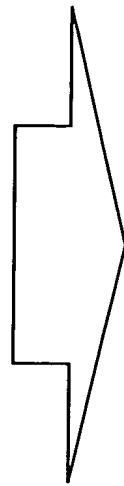


FIG. 13

ROUTE ID:01050-0001  
 JOB PROCESS:01050 (APPROVAL OF PURCHASE REQUEST SLIP)  
 OCCURRENCE CONDITION:  
 CONTEXT INFORMATION, USER INFORMATION USER TYPE= =  
 PURCHASE MANAGER, DB ACCESS SEQUENCE  
 (1) APPROVAL FLOW ACQUISITION (READ)  
 (2) PURCHASE REQUEST SLIP SEARCH (READ)  
 (3) ORDER ITEM INFORMATION SEARCH (READ)  
 (4) COMMERCIAL ARTICLE INFORMATION ACQUISITION (READ)  
 (5) PRICE INFORMATION SEARCH (READ)  
 (6) APPROVAL HISTORY INFORMATION SEARCH (READ)  
 (7) PURCHASE REQUEST SLIP UPDATING (WRITE)  
 (8) APPROVAL HISTORY INFORMATION UPDATING (WRITE)

STANDARD ACCESS SEQUENCE

PURCHASE SLIP BODY
ITEM INFORMATION
COMMERCIAL ARTICLE INFORMATION
PRICE INFORMATION
APPROVAL FLOW INFORMATION
APPROVAL HISTORY INFORMATION
USER INFORMATION
ENTERPRISE INFORMATION

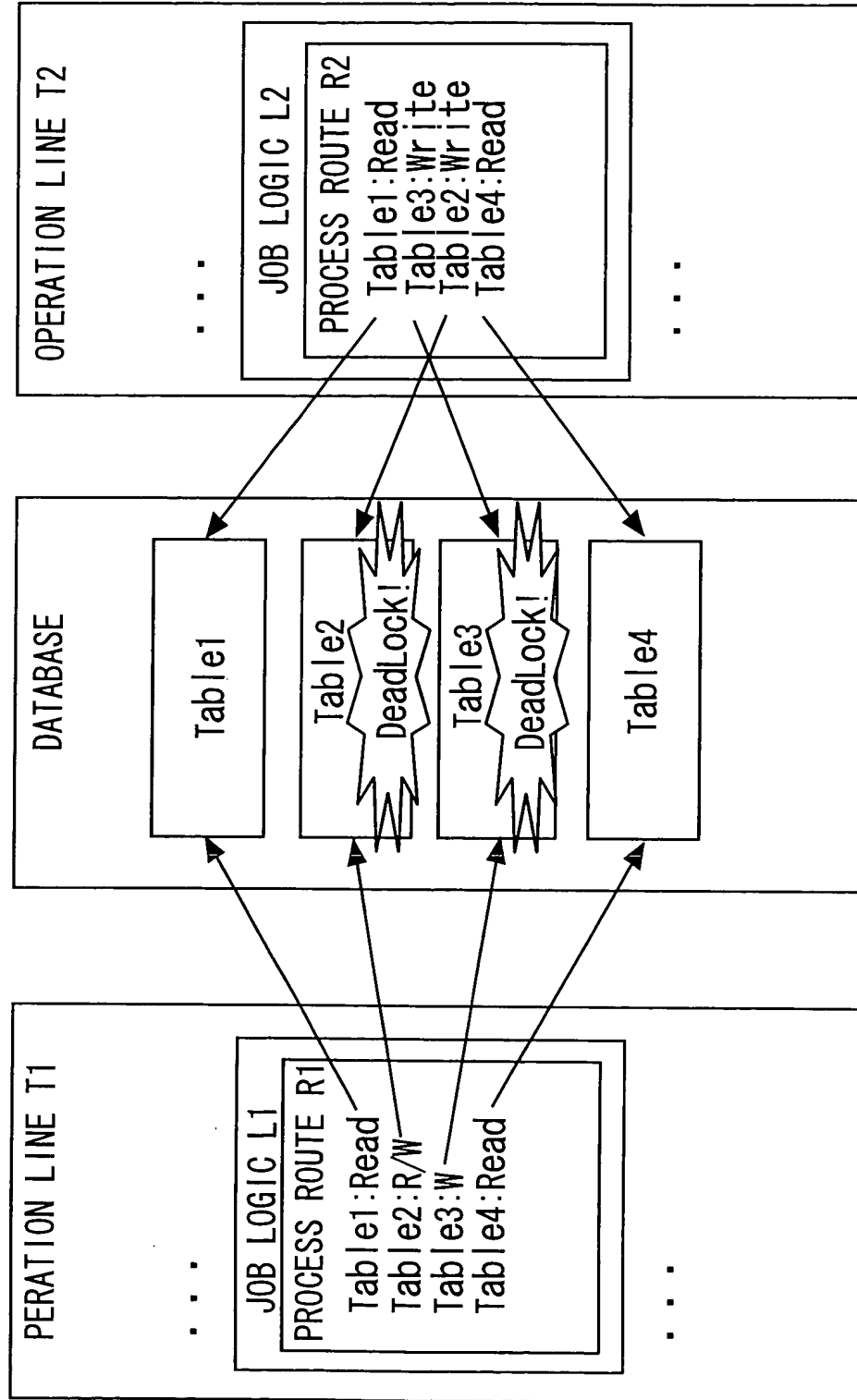


[ALARM] APPROVAL FLOW INFORMATION IS ACCESSED ANTERIOR TO PURCHASE SLIP BODY  
 [ALARM] APPROVAL FLOW INFORMATION IS ACCESSED ANTERIOR TO ITEM INFORMATION  
 [ALARM] APPROVAL FLOW INFORMATION IS ACCESSED ANTERIOR TO COMMERCIAL ARTICLE INFORMATION  
 [ALARM] APPROVAL FLOW INFORMATION IS ACCESSED ANTERIOR TO PRICE INFORMATION

FIG. 14

OPERATION LINE T1	ROUTE/ACCESS		SEQUENCE INFORMATION	
	ROUTE A001; USER TAKES CHARGE OF SPECIFIED PURCHASE ENTERPRISE NO RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE		ROUTE A002; USER TAKES CHARGE OF WHOLE PURCHASE ENTERPRISES, NO RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE	
	IN-CHARGE-OF-SALES INFORMATION Read		ESTIMATION REQUEST SLIP Read	
	ESTIMATION REQUEST SLIP Read		ESTIMATION REQUEST ITEM INFORMATION Read	
	ESTIMATION REQUEST ITEM INFORMATION Read			
LOG-IN WITH SALES SUPPORT	ROUTE A011; USER TAKES CHARGE OF SPECIFIED PURCHASE ENTERPRISE RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE		ROUTE A012; USER TAKES CHARGE OF WHOLE PURCHASE ENTERPRISES RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE	
	IN-CHARGE-OF-SALES INFORMATION Read		IN-CHARGE-OF-SALES INFORMATION Read	
	ESTIMATION REQUEST SLIP Read		ESTIMATION REQUEST SLIP Read	
	ESTIMATION REQUEST ITEM INFORMATION Read		ESTIMATION REQUEST ITEM INFORMATION Read	
	COMMERCIAL ARTICLE INFORMATION Read		COMMERCIAL ARTICLE INFORMATION Read	
SELECTION OF ESTIMATION /ORDER RECEIPT MENU	ROUTE A011; USER TAKES CHARGE OF SPECIFIED PURCHASE ENTERPRISE RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE		ROUTE A012; USER TAKES CHARGE OF WHOLE PURCHASE ENTERPRISES RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE	
	IN-CHARGE-OF-SALES INFORMATION Read		IN-CHARGE-OF-SALES INFORMATION Read	
	ESTIMATION REQUEST SLIP Read		ESTIMATION REQUEST SLIP Read	
	ESTIMATION REQUEST ITEM INFORMATION Read		ESTIMATION REQUEST ITEM INFORMATION Read	
	COMMERCIAL ARTICLE INFORMATION Read		COMMERCIAL ARTICLE INFORMATION Read	
SELECTION OF RESPONSE OF ESTIMATION	ROUTE A011; USER TAKES CHARGE OF SPECIFIED PURCHASE ENTERPRISE RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE		ROUTE A012; USER TAKES CHARGE OF WHOLE PURCHASE ENTERPRISES RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE	
	IN-CHARGE-OF-SALES INFORMATION Read		IN-CHARGE-OF-SALES INFORMATION Read	
	ESTIMATION REQUEST SLIP Read		ESTIMATION REQUEST SLIP Read	
	ESTIMATION REQUEST ITEM INFORMATION Read		ESTIMATION REQUEST ITEM INFORMATION Read	
	COMMERCIAL ARTICLE INFORMATION Read		COMMERCIAL ARTICLE INFORMATION Read	
DISPLAY OF ESTIMATION SLIP LIST	ROUTE A011; USER TAKES CHARGE OF SPECIFIED PURCHASE ENTERPRISE RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE		ROUTE A012; USER TAKES CHARGE OF WHOLE PURCHASE ENTERPRISES RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE	
	IN-CHARGE-OF-SALES INFORMATION Read		IN-CHARGE-OF-SALES INFORMATION Read	
	ESTIMATION REQUEST SLIP Read		ESTIMATION REQUEST SLIP Read	
	ESTIMATION REQUEST ITEM INFORMATION Read		ESTIMATION REQUEST ITEM INFORMATION Read	
	COMMERCIAL ARTICLE INFORMATION Read		COMMERCIAL ARTICLE INFORMATION Read	
EXECUTION OF RESPONSE OF ESTIMATION	ROUTE A011; USER TAKES CHARGE OF SPECIFIED PURCHASE ENTERPRISE RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE		ROUTE A012; USER TAKES CHARGE OF WHOLE PURCHASE ENTERPRISES RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE	
	IN-CHARGE-OF-SALES INFORMATION Read		IN-CHARGE-OF-SALES INFORMATION Read	
	ESTIMATION REQUEST SLIP Read		ESTIMATION REQUEST SLIP Read	
	ESTIMATION REQUEST ITEM INFORMATION Read		ESTIMATION REQUEST ITEM INFORMATION Read	
	COMMERCIAL ARTICLE INFORMATION Read		COMMERCIAL ARTICLE INFORMATION Read	
LOG-OUT FROM SALES SUPPORT	ROUTE A011; USER TAKES CHARGE OF SPECIFIED PURCHASE ENTERPRISE RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE		ROUTE A012; USER TAKES CHARGE OF WHOLE PURCHASE ENTERPRISES RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE	
	IN-CHARGE-OF-SALES INFORMATION Read		IN-CHARGE-OF-SALES INFORMATION Read	
	ESTIMATION REQUEST SLIP Read		ESTIMATION REQUEST SLIP Read	
	ESTIMATION REQUEST ITEM INFORMATION Read		ESTIMATION REQUEST ITEM INFORMATION Read	
	COMMERCIAL ARTICLE INFORMATION Read		COMMERCIAL ARTICLE INFORMATION Read	
EXECUTION FREQUENCY: COUNT/ TIME	ROUTE A011; USER TAKES CHARGE OF SPECIFIED PURCHASE ENTERPRISE RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE		ROUTE A012; USER TAKES CHARGE OF WHOLE PURCHASE ENTERPRISES RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE	
	IN-CHARGE-OF-SALES INFORMATION Read		IN-CHARGE-OF-SALES INFORMATION Read	
	ESTIMATION REQUEST SLIP Read		ESTIMATION REQUEST SLIP Read	
	ESTIMATION REQUEST ITEM INFORMATION Read		ESTIMATION REQUEST ITEM INFORMATION Read	
	COMMERCIAL ARTICLE INFORMATION Read		COMMERCIAL ARTICLE INFORMATION Read	
SIMULTANEOUS UTILIZATION USER COUNT: PERSONS	ROUTE A011; USER TAKES CHARGE OF SPECIFIED PURCHASE ENTERPRISE RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE		ROUTE A012; USER TAKES CHARGE OF WHOLE PURCHASE ENTERPRISES RESTRICTION OF CATEGORY OF COMMERCIAL ARTICLE	
	IN-CHARGE-OF-SALES INFORMATION Read		IN-CHARGE-OF-SALES INFORMATION Read	
	ESTIMATION REQUEST SLIP Read		ESTIMATION REQUEST SLIP Read	
	ESTIMATION REQUEST ITEM INFORMATION Read		ESTIMATION REQUEST ITEM INFORMATION Read	
	COMMERCIAL ARTICLE INFORMATION Read		COMMERCIAL ARTICLE INFORMATION Read	

FIG. 15



*FIG. 16*

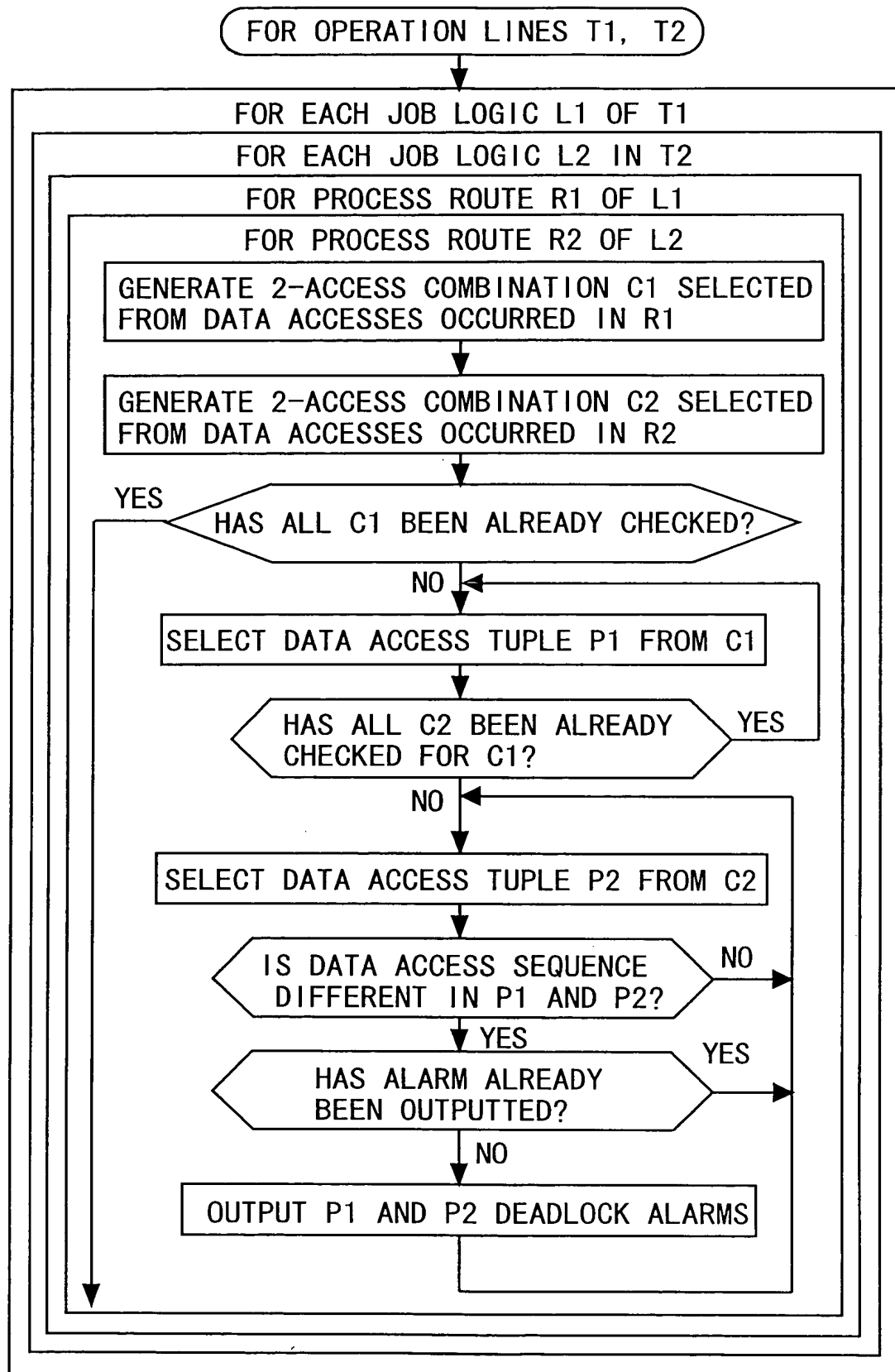




FIG. 17

